Achievement in Public and Private Secondary Education in the Netherlands

van Laarhoven, Peter; Bakker, Bart; Dronkers, Jaap; Schijf, Hubert

Published in:
Zeitschrift für internationale erziehungs- und sozialswissenschaftliche Forschung

Publication date:
1987

Peter van Laarhoven, Bart Bakker, Jaap Dronkers, and Hubert Schijf

Achievement in Public and Private Secondary Education in the Netherlands*

Zusammenfassung:

Neueren Forschungsbefunden zufolge sind private Sekundarschulen in den USA leistungsfähiger als staatliche Schulen. Zwei kritische Punkte der amerikanischen Forschung, die im Mittelpunkt des Artikels stehen, beziehen sich auf die Frage, a) ob die kurzfristig gemessenen Vorteile privater Schulen langfristig stabil sind und b) ob sich die festgestellten Effekte durch Unterschiede in der Finanzierung erklären lassen. In den Niederlanden sind staatliche und private Schulen finanziell gleichgestellt. Unter Verwendung von Längsschnittdaten zum Schulerfolg einer Schüler-Kohorte, die 1965 in das Sekundarschulwesen eintrat, wird untersucht, ob sich die Schüler an katholischen, evangelischen und staatlichen Schulen systematisch hinsichtlich verschiedener Erfolgsindikatoren voneinander unterscheiden. Die Ergebnisse bestätigen die Existenz eines Schulsektor-Effektes.

Summary:

Recent research has claimed that American private high schools are more effective than public high schools. Two critical aspects of this research are at the center of this article: a) whether the short-term benefits of private schools which were found to exist persist over an extended period of time; b) whether these effects can be explained by differences in funding. In the Netherlands public and private education are equally funded. Longitudinal data on the educational attainment of the 1965-cohort during the whole of their secondary education were used to establish whether Dutch Catholic, Protestant and public secondary schools have differential effects on their pupils' educational achievement.
The results of the study demonstrate the presence of a school sector effect in the Netherlands on the educational attainment of their pupils.

* Paper presented at the International Symposium "The Nonprofit Sector and the Modern Welfare State", June 10-12, 1987, Bad Honnef, FRG.

Introduction

Coleman, Hoffer and Kilgore (1982) claimed that American private high schools are more effective than public high schools. On the basis of the 1980 data of the High School and Beyond (HSB) study they concluded that private school students learned substantially more than public school students during their last two years in high school. Again *Coleman, Hoffer and Kilgore* (1982) and *Greely* (1982) found that private school attendance is especially favorable for ethnic minority students and students from lower social backgrounds. Their conclusions evoked a storm of protest.

Critics have argued that private schools enroll students of superior academic competence, because of either selection or self-selection. Coleman, Hoffer and Kilgore could not distinguish differential sector effectiveness from these selection effects, because they used cross-sectional data. *Hoffer, Greeley* and *Coleman* (1985) used the 1982 follow-up data of the HSB study on achievement growth in the last two years of high school to test the effectiveness hypothesis. They controlled for family background and previous achievement and found support for their earlier claims. *Willms* (1985) and *Alexander and Pallas* (1985) reanalyzed the HSB follow-up data, and argued that the benefits of private schooling were much smaller than Hoffer, Greeley and Coleman claimed, and were often statistically insignificant. The discussion that followed was whether the estimated sector effect is large or small, whether initial differences among the students entering the different sectors are sufficiently controlled for, and whether the tests used are sensitive enough to detect differences that might exist between public and private schools in achievement growth.

Jencks (1985: 134) summarized the debate in some methodological conclusions. In comparing different educational practices related to school sector, data are needed on the cumulative effect of many years of exposure to the practice in question. Without information on the cumulative impact of school sector on the educational career, it is not possible to tell whether short-term benefits persist in the long term. When a student receives only a few years of schooling within one sector, evaluations must follow up several years after leaving school in order to determine whether the effect is of a lasting nature. Conclusions based entirely on short-term effects should never be taken very seriously, since experience has repeatedly shown that long-term effects are far smaller than short-term effects.

It is clear that even the most accurate assessment of the sector effect in the American school system will retain some uncertainty. The selection problem can not be solved entirely, because in the USA

the public and private sector are unequally financed. That means that students in private und public schools differ in at least one respect: the parents of students in private schools have to pay substantial extra costs. To what extent this is a "proxy" for the parents' seriousness about educational outcome or motivation and support for academic achievement will not be elaborated here. The simple fact that students and their parents differ systematically across school sector in terms of the amount they spend on education means that the estimation of the sector effect is biased to some unknown extent.

James (1984) remarks that the educational system in the Netherlands is a good example of a system in which public and private education are equally funded. The equal funding of public and private education was one of the major victories of the denominational political parties in the first half of this century. In 1917 the so-called *"Schoolstrijd"* (School struggle) led to full government support of denominational education on the same footing as public education. The educational system in the Netherlands is characterized by a large private sector, existing alongside a public sector. The private sector is for the most part composed of denominational schools, both Catholic and Protestant. If 'pillarization' (*verzuiling*) along religious lines of the Dutch society at large has been waning in the last decades, denominational schools show no sign of losing ground to the public sector. More than 60% of the school pupils still receive schooling within the private sector. Apart from denominational schools, there is also a small number of private secular schools which, as a rule, are administered in accordance with particular educational concepts. Although there is substantial government control, the non-public schools have a relatively large degree of freedom in hiring teachers and in making their own educational programs, within the context of government-controlled examinations. Although developed in a quite different historical context than the American, the Dutch educational system offers a good opportunity to test whether school sector effects on achievement can be explained by sector differences in funding.

In Dutch literature on education and 'pillarization', one can find several explanations for the prevalence of denominational schools. One of the explanations is the so-called 'differential affinity hypothesis' (*Thurlings*, 1978). According to this theory 'pillarization' arose originally in those sectors of Dutch society which had a large influence on the formation of values and norms. Education and especially primary education are good examples of such sectors. For that reason those sectors will probably be the last where 'pillarization' disintegrates. According to *Van Kemenade* (1968) Catholic parents set a high value on a religious upbringing of their children; they

prefer Catholic schools for the socialization of cherished norms and values. Research shows that Protestant (*Gereformeerde*) parents in particular strongly adhere to traditional beliefs and that they also retain a strong sense of 'pillarization' (*De Jonge*, 1978).

However, the current participation in Catholic and Protestant education cannot be explained entirely by the actual preferences of Catholic and Protestant parents. In 1965, as many as a third of all Catholic parents indicated a willingnes to let their children attend public schools (*Van Kemenade*, 1968). And for the year 1979 it was estimated that only 66% of all Catholic and Protestant parents explicitly preferred denominational schools for their children (*Social and Cultural Planning Office*, 1980). Also the percentage of Protestant and Catholic households has dropped far lower than the percentage of children at Protestant and Catholic schools.

According to a second explanation the actual participation does not reflect parents' preferences but rather their lack of alternatives. When new schools are founded, the current distribution of schools across sectors is commonly taken as a starting-point. It is difficult for that reason to alter the existing ratio of private and public schools. Moreover, established school boards and their organizations have powerful political positions, and they can usually exert enough influence to maintain the existing overrepresentation of denominational schools (*Bouhuijs* and *Boef-Van Der Meulen*, 1978; *Ransdorp* and *Dronkers*, 1982). Although many parents probably prefer other schools, these may not be available within their neighbourhood or, if they exist, may belong to an undesired sector. Despite some evidence for this second explanation, it does not explain the relative overrepresentation of private schools and did not give rise to political action to change the lack of alternatives as happened in other sectors of Dutch society as a consequence of the waning of 'pillarization'.

A third explanation for the persistence of a large private school sector might be that private schools provide better education than public schools. 'Better' not necessarily in the sense of superior norms and values but rather in the sense of a fuller development of children's faculties. Not all parents will demand the same kind of quality. Whatever these demands may be, parents appear to be becoming more and more concerned about the quality of the schools attended by their children. It is often impossible for parents to verify whether a particular school has the educational standing they desire. School sector might therefore become a screening device that enables parents to assess the quality of the schooling their children are likely to receive. Denominational schools in the Netherlands are, moreover, able to raise some extra school fees (an average of f 200.-, equal to $ 90)

and are, as a result, able to organize more extra-curricular activities than public schools. They can probably also enforce both more effective discipline and more stringent educational demands upon teachers and pupils. Finally, they are less sensitive to political pressure.

The Netherlands' secondary education is divided into different types of schools, hierarchically ranked from high to low. This hierarchy is quite similar to the different tracks that exist in American high schools (college, general, vocational). Before the 1968 educational reform this hierarchy was: classical and modern grammar school, and modern grammar school for girls (*vhmo*); advanced primary education (*ulo*); junior domestic science school and junior technical school (*lbo*); continued primary education (*vglo*). Within vhmo and ulo there are two tracks: 'A' and 'B'. Track 'A' stands for education with an emphasis on languages, history and the like. Track 'B' stands for education with an emphasis on mathematics and exact sciences. It is not unusual to consider track 'B' higher, because it offers better opportunities for follow-up education. After 1968 the hierarchy of schools changed into: pre-university education; senior general education; junior general education; junior vocational education. Only the highest level (classical and modern grammar school or pre-university education) provides a direct entry to the university. The other types of secondary education offer other, less valued opportunities for follow-up education or jobs, according to their place in the hierarchy. This educational reform did not alter, however, the power relations between the three school sectors.

In an earlier article we demonstrated a school sector effect in Dutch primary education in that denominational school students achieve somewhat better than public school students (*Van Laarhoven et al.*, 1986). In this article we will focus on the differential effects of Catholic, Protestant and public schools on achievement during secondary education. As Jencks suggests, we will examine the long-term effects of the educational practice that is related to school sector. However, because of restrictions in the data our investigation is limited to the effects on some key aspects of a pupil's school career: non-promotion, track enrollment, graduating and continued education after leaving the particular type of school. We also do not have data on school differences within the Catholic, Protestant and public sector. So it is not possible to control for school differences which are not related to school sector (e.g. Catholic schools are on the average smaller than public schools). However, we know from other sources that school characteristics do not significantly vary across school sector. Our research is, moreover, confined to the generation that completed primary education in 1965, which means that they were at that time

approximately twelve years old. This generation completed their school careers in secondary education undergoing the 1968 reform. So some attented the old pre-1968 types of school and some the new post-1968 ones.

The central problem of this article can be stated as follows: do Catholic, Protestant and public secondary schools have different effects on their pupils' educational achievement after allowing for social background, including gender, region, and characteristics of the previous school career (comprising an achievement test score in sixth grade of primary education)?

Data, method and variables

The data used for the analysis include longitudinal information on pupils who left primary school in 1965 (they were born around 1953). This cohort is part of the so-called '*Van Jaar tot Jaar*' (From Year to Year) research. In 1965, the Netherlands Central Bureau of Statistics sampled 405 schools from the population of Dutch primary schools. A stratified sample of 3,042 respondents was taken from the 11,170 sixth-grade pupils within this sample of schools. The *Instituut voor Toegepaste Sociologie* (Institute of Applied Sociology) interviewed these respondents in 1970, 1974 and 1978 (*Diederen*, 1981).

The analysis is carried out within each level of secondary education. A considerable number of students attended more than one level of secondary education. For each pupil the career within each educational level is considered as a "case". This means that some pupils are examined several times. So the population universe is not the 1965 generation of pupils, but their respective attendances at a certain schooltype. We restrict our analysis to two educational levels: the grammar school and junior general education. The junior domestic science school and junior technical school are not examined because the measure of school sector proved to be unreliable. Continued primary education is excluded from our analysis because there were only 156 observations.

One of the major problems of the measurement of contextual effects is how to correct for individual characteristics. In the case of estimating school sector effects, we have to control for initial differences among the students entering the various sectors. This is known as the selectivity bias problem, which may be conceptualized as follows: if one school sector enrolls better students than the other, than there will be a selectivity bias in favor of the first. We control for four groups of variables: social background, career in primary education

including a scholastic achievement score, previous school career in secondary education (if available), and some present school features.

Table 1. Labels of the variables used

Social background	
gender	SEX
father's occupation	FOCC
father's education	FEDUC
mother's education	MEDUC
province of residence	REGION
urbanization of residence	URBAN
religious preference parents	RELI
Career in primary education	
primary school sector	PRISEC
non-promotion	PRINPR
achievement score in sixth-grade	PRIACH
teacher's advice on secondary education	PRIADV
Previous secondary school career (if present)	
level of preceding education	PRELEV
Present school features	
type of school within one level	TYPE
grade leaving school	YEARLEA
school sector	SECTOR
comprehensive or grammar/junior general school only	COMPR
extra-curricular activities	EXCUR
participation in extra-curricular activities	EXPART
Achievement in secondary education	
non-promotion	NONPRO
choice of track "B"	TRACK
graduating	GRAD
continued education after graduating	CONGRAD
continued education after school leaving without a certificate	CONNON
continued education after school leaving without a certificate to a higher schooltype	FLOWUP

Our analysis of scholastic achievement in secondary education is confined to some key aspects of the educational career. The following dependent variables are used: non-promotion, curriculum track

within a particular schooltype, graduating, continued education after leaving the particular schooltype. Non-promotion is also used as a control variable. To meet the methodological criticism of Jencks, we make typologies of school careers of public, Catholic and Protestant school students. In doing so, we evaluate the long-term effects of the education within a school sector: the cumulative effects of the several aspects of the educational career. Table 1 explains the labels of the variables used. Most of the variables are self-evident or have already been discussed. COMPR refers to the possibility that several types of secondary schools were clustered into one school community. We call it a "comprehensive school" when a school was part of such a community, and a "grammar/junior general school only" when it was not. The clustering of schooltypes was promoted by the 1968 school reforms.

To estimate sector differences we mainly use analysis of covariance (ANOVA, see *Nie et al.*, 1975: 398-433). This technique enables us to examine the relationship between a quantitative dependent variable and quantitative independent variables (called "covariates") as well as qualitative independent variables (called "factors"). ANOVA provides a significance-test for the contribution by each independent variable to the explained variance of the dependent variable. Moreover, ANOVA yields estimates for the strength and direction of the relationships. These estimates are, however, meaningless when there are interactions between covariates and factors. Hence it is necessary to investigate whether interactions like these are present. This has been done by entering interactions as dummy variables in regression analyses. Only when no interaction with other control variables and no severe deviation of linearity occurred were variables handled as covariates. When interactions were present in which school sector was not involved, a new control-variable was created. This new variable was a full crossing of the original factors. Interactions between school sector and other control variables are presented separately.

ANOVA produces three estimates of the mean of the dependent variable for each category of a factor. They are calculated by comparing the unadjusted mean of the particular category with:

a. the grand mean;
b. the adjusted mean when the other factors are controlled for;
c. the adjusted mean when both factors and covariates are controlled for.

In the tables we present only the first and last estimate.

Achievement in public and private grammar schools

The Dutch grammar schools attended by the cohort under study are a rather heterogeneous collection. They consist of the classical grammar school (*gymnasium*), which is a form of pre-university education, the modern grammar school (*hbs*), preparing for vocational colleges and university, and the modern grammar school for girls (*mms*), which gave less opportunity for college and university education. This modern grammar school for girls was expanded for boys and girls by the 1968 educational reforms into the senior secondary school (*havo*). Approximately 70% of the latter's pupils are recruited from advanced primary schools (*ulo*), 20% are recruited from primary schools and 10% are from other grammar schools. In grammar school careers we distinguish 5 key aspects: non-promotion, track "A" or "B", graduating, continuation of education after leaving the particular schooltype with and without a certificate. The results for the different school sectors are presented in table 2.

Table 2. Some key aspects in school career in public, Catholic and Protestant grammar schools, before (a) and after (b) controlling for variables mentioned in table 3.

	% NONPRO		% TRACK		% GRAD		% CONGRAD		% CONNON	
	a	b	a	b	a	b	a	b	a	b
public	43	44	42	40	57	60	66	67	81	81
Catholic	38	38	37	39	61	59	73	74	79	80
Protestant	41	40	45	45	66	65	83	81	83	82
total	41		41		61		73		81	
(N=100%)	1116		690		1116		678		438	

Achievement in Protestant grammar schools is higher than in both Catholic and public schools. Students in Protestant schools are more often assigned to track "B", graduate more frequently, and continue education more often after graduating whether with or without a certificate. The only exception is that students in Catholic schools repeat fewer classes than Protestant school students. In general, the differences between Catholic school students and students in public schools are smaller than between Protestant and public schools.

By controlling for the variables mentioned in table 3 the school sector effects diminish but are not eliminated, as can be seen in table 2. The reduction is largely due to sector differences in the distribution of students over subtypes within the grammer school level. The modern grammar school for girls and senior general education can be considered "easier" (less non-promotion, more assigment to "B"-tracks, more graduating students); classical and modern grammar schools are more difficult, but usually lead to further enrollment in college and university education. Catholic school students attend these "easier" schooltypes more frequently than both Protestant and public school students. Allowing for social background, the primary school career, preceding career in secondary education and present school features leads to an elimination of the difference in graduating between Catholic and public schools, but do not reduce the advantage of Protestant school students.

Table 3. ANOVA-estimates of school sector effects on career in grammar schools

	NONPRO	TRACK	GRAD	CONGRAD	CONNON
R^2	.15	.27	.31	.10	.39
attributable to					
TYPE	.11**			.02**	
PRELEV		.15**	.16**	–	.14**
NONPRO	–			.04**	
PRIADV	–	–	.06**	–	–
PRIACH	–	–		–	–
PRINPR	–	–	.00**	–	–
TRACK	–	–	–	.01*	–
COMPR	–	.01**	.04**	–	–
SEX	.01**	.04**	–	–	–
FOCC	.02**	–	–	.01**	.02**
FEDUC	–	.02**	–	–	–
YEARLEA	–	–	–	–	.12**
EXCUR	.00+	–	.00+	–	–
EXPART	.00+	–	.03++	–	–
SECTOR	.00	.00	.00	.02**	.00
Interactions of SECTOR and	–	COMPR*	COMPR* FOCC* SEX*	FOCC*	–

** factor significant with a probability of .01
* factor significant with a probability of .05
++ covariate significant with a probability of .01
+ covariate significant with a probability of .05

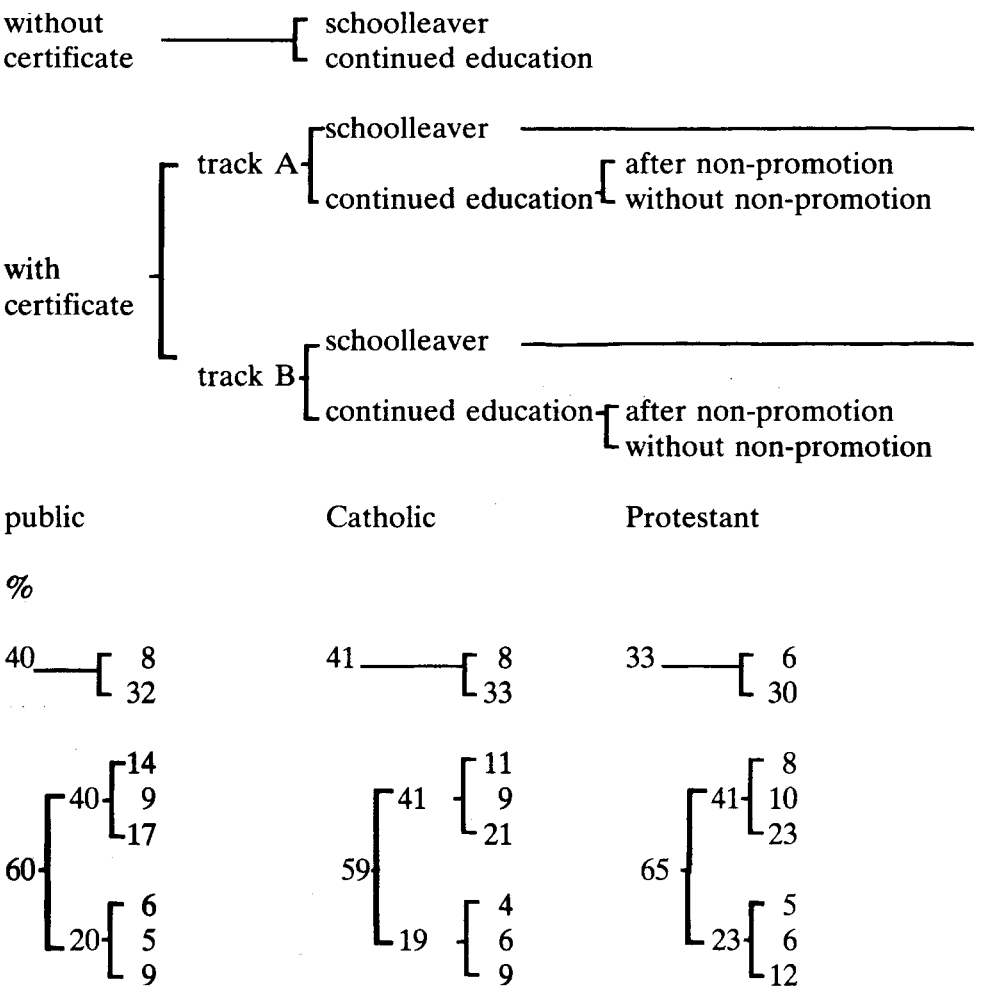
In table 3 the results of the ANOVA-analysis are presented. The variables explain 10% – 39% of the variance in the several key aspects in grammar school careers. The effect of school sector is only significant in the continuation of education after graduating, where it explains 2% out of 10% of the variance. The difference between students in public and Protestant schools is large in this respect: only 67% of the public school graduates, as against 81% of the Protestant school graduates, enroll in follow-up education.

Five important interaction effects are found in which school sector is involved. In table 4 we show only the three interaction effects on graduating; the interaction of the other two is similar. After controls, boys graduate more frequently in denominational schools than girls, whereas this difference is absent in public schools. The school sector effect varies according to family background of the student (indicated by father's occupation). In public schools there is no family background effect on graduating. In denominational schools there is a non-linear effect of family background: middle class students graduate less frequently than lower or upper class students. In Catholic schools the upper class students perform best in this respect, while in Protestant schools the lower class students graduate most frequently. The interaction with COMPR shows that the high achievement in Protestant schools only occurs in comprehensive schools. Students in non-comprehensive Protestant schools even graduate less frequently than students in non-comprehensive Catholic and public schools.

Table 4. Percentage of graduates by school sector and gender, father's occupation and comprehensive or grammar school only after controlling for variables mentioned in table 3

		public	Catholic	Protestant	total%
SEX	boys	59	62	71	63
	girls	59	56	59	58
FOCC	labourers	59	60	72	62
	small self-employed or lower employees	60	54	61	58
	middle employees or higher occupations	60	66	67	64
COMPR	grammar school only	51	50	48	50
	comprehensive	63	63	71	65

Table 5. Typology of careers in grammar-schools by school sector after controlling for variables mentioned in table 3



In table 5 the results are reconsidered using a typology of school careers in grammar school after allowing for social background, primary school career, preceding career in secondary education and present school features. The Protestant sector effect leads to relatively high achievement, giving them a considerable advantage over other students. Protestant school students are more often assigned to track "B", graduate more frequently, and continue education more often after leaving the grammar school. Of the Protestant school students 51% enroll in college and university education, whereas only 40% of the public school students and 45% of the Catholic school students take this decision. Results in public and Catholic schools are

much the same, but there seems to be some advantage for Catholic school students.

Table 6. Typology of grammar school careers by school sector and gender after controlling for variables mentioned in table 3

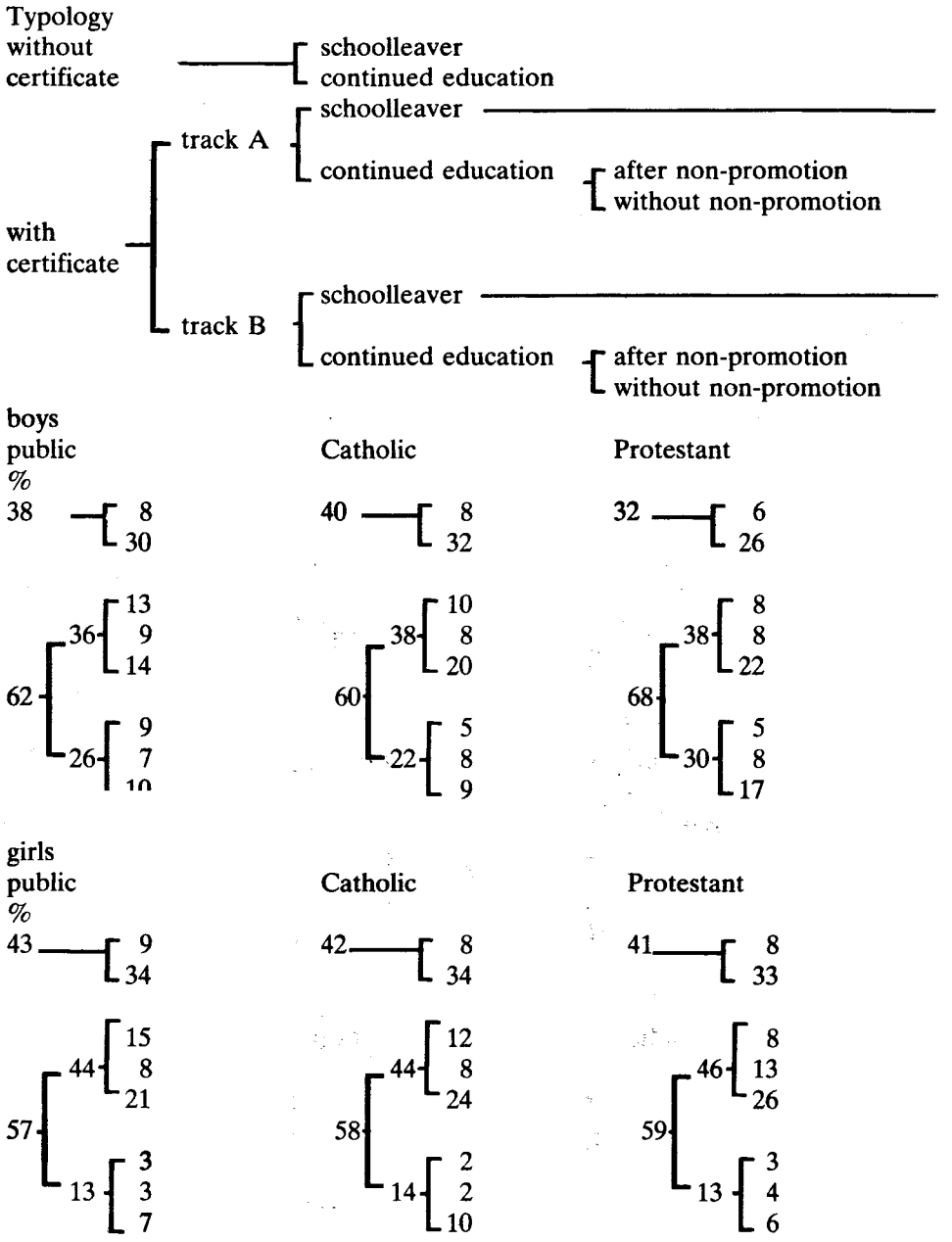
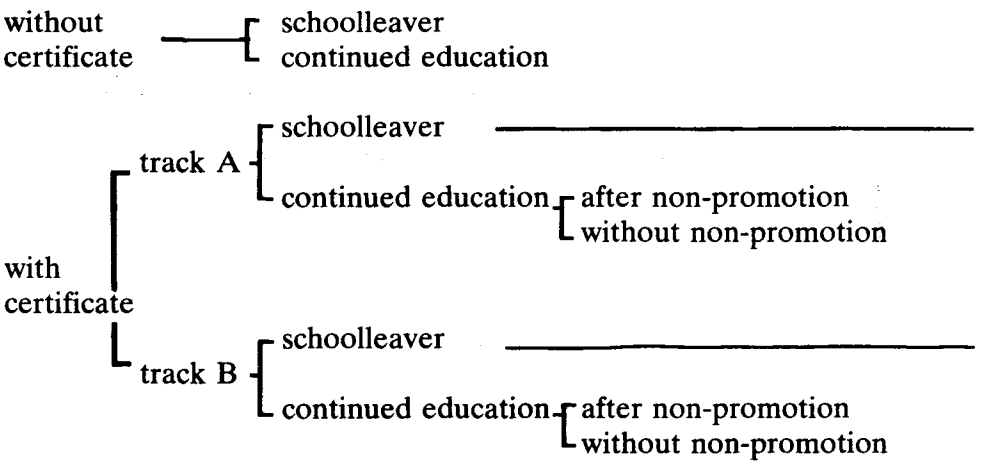
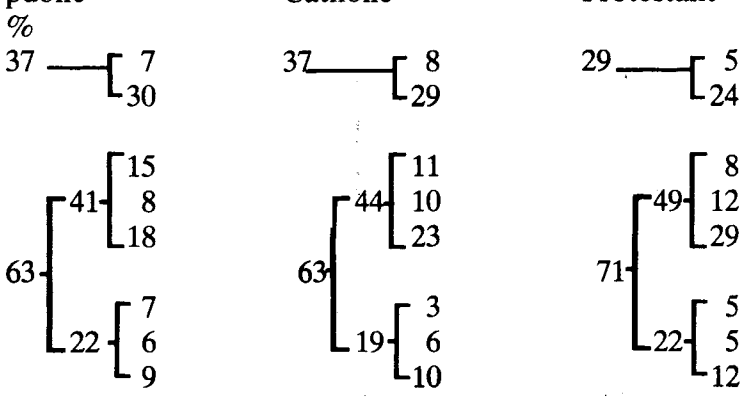


Table 7. Typology of careers in grammar schools by school sector and comprehensive or grammar school only after controlling for variables mentioned in table 3

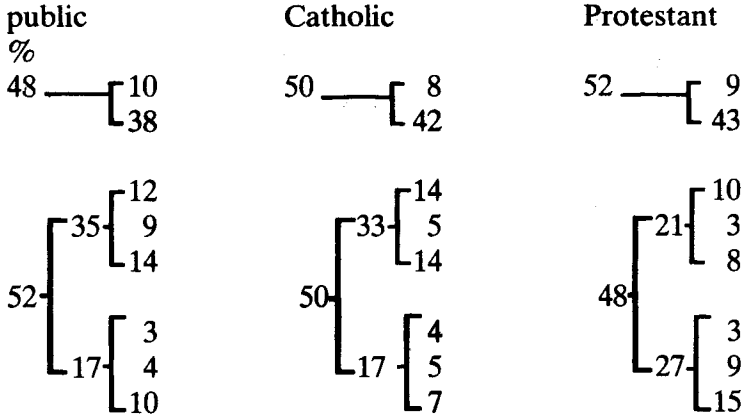
Typology



comprehensive school



grammar school only



We found two important interaction effects in the complete grammar school career: between SECTOR and SEX (table 6), and between SECTOR and COMPR (table 7). The school effect is conditioned by gender, in that girls do not achieve better in Protestant schools. The school sector effect for girls is mainly eliminated by controlling for type of school. It is remarkable that among boys there is an almost 10% difference in graduating in track "B".

The second important interaction is between SECTOR and COMPR. In Protestant non-comprehensive grammar schools students are much more frequently assigned to track "B" than in the other sectors, but in this track they graduate less frequently. In comprehensive grammar schools students do not differ in track assignment across sector, but Protestant schools are more effective insofar as their students attain more certificates. So in both categorical and comprehensive Protestant schools more B-certificates are obtained in the end as compared to the public and Catholic schools.

Achievement in public and private junior general schools

The quantitatively most important schooltype in the Dutch secondary educational system is the "advanced primary education" (*ulo*), which in 1968 was transformed into "junior general education" (*mavo*). Nine out of ten of the students into our junior general data follow ulo-education and one out of ten mavo-education, but we will consider them all as junior general students. Six key aspects in the junior general school career are distinguished, which are presented in table 8.

Table 8. Some key aspects in school careers in public, Catholic and Protestant junior general schools, before (a) and after (b) controlling for variables mentioned in table 9

	% NONPRO		% TRACK		% GRAD		% CONGRAD		% CONNON		% FLOWUP	
	a	b	a	b	a	b	a	b	a	b	a	b
public	39	38	18	17	61	58	56	57	64	69	26	28
Catholic	32	33	23	22	66	65	67	67	69	67	19	18
Protestant	35	34	21	22	55	58	61	61	72	70	21	22
total	35		21		61		62		69		22	
(N=100%)	1581		971		1581		966		615		423	

School sector has substantial influence on the junior general school careers. Catholic school students achieve better in four key aspects of the school career than both Protestant and public school students: they repeat fewer classes, are more often assigned to track "B", graduate more frequently, and continue relatively often their education after graduating. Continuing education in grammar schools without a certificate, which is an interrupted but in fact a successful junior general school career, occurs less frequently in Catholic schools. The effectiveness of Protestant and public school differs depending on the key aspects under study. Public junior general school students repeat more classes, are less frequently assigned to track "B", and relatively few continue their education after graduating; but they graduate more frequently and they often enroll in grammar schools without a certificate.

Table 9. ANOVA-estimates of school sector effects on career in junior general school

	NONPRO	TRACK	GRAD	CONGRAD	CONNON	FLOWUP
R^2	.10	.07	.25	.13	.40	.35
attributable to						
TYPE	–	–	.00	–	–	–
NONPRO	–	–	.02**	.01	.03**	.02**
PRELEV	.01*	.01**		–		.01*
PRIADV	.04**	–	.01**	–	.02**	.12**
PRIACH		–	.01**	.01**	–	
TRACK	–	–	–	.00*	–	–
SEX	.03**	.03**	–	.03**	.04**	–
FOCC	.01**	–	–	.04**	.03**	.05**
FEDUC	–	.01*	–	.01+	.01+	–
MEDUC	–	–	–	–	.01++	.03++
PRINPR	–	–	.01++	–	–	.01++
COMPR	–	.01**	–	–	–	.01++
EXPART	.01++	–	.12++	–	–	–
YEARLEA	–	–	–	.00+	.21++	–
SECTOR	.00	.00	.01*	.01*	.00	.01*
Interactions of SECTOR and	SEX*	FEDUC*	PRIACH* NONPRO* PRELEV*	NONPRO*	PRELEV*	PRIADV*

** factor significant with a probability of .01
* factor significant with a probability of .05
++ covariate significant with a probability of .01
+ covariate significant with a probability of .05

The differences are partially a consequence of the composition of the public, Catholic and Protestant school student populations as one can see in table 9. Statistical controls of the initial differences in social background and achievement reduce the school sector effect on nearly all the key aspects of the junior general school career. Especially Protestant school students seem to have an initial disadvantage, therefore the Protestant school effectiveness is upwardly adjusted. The difference in percentage of graduates between Protestant and public school students is eliminated by allowing for initial differences. Catholic junior general schools still remain the most effective ones.

The ANOVA-estimates are given in table 9. In the several key aspects of junior general school careers between 7% and 40% of the variance is explained by the control variables used. School sector has a significant effect on the percentage of graduates, the continuation of study after graduating and enrollment in grammar schools without a certificate. Non-promotion, track assignment and continuation of education after graduation without a certificate do not differ significantly across school sector.

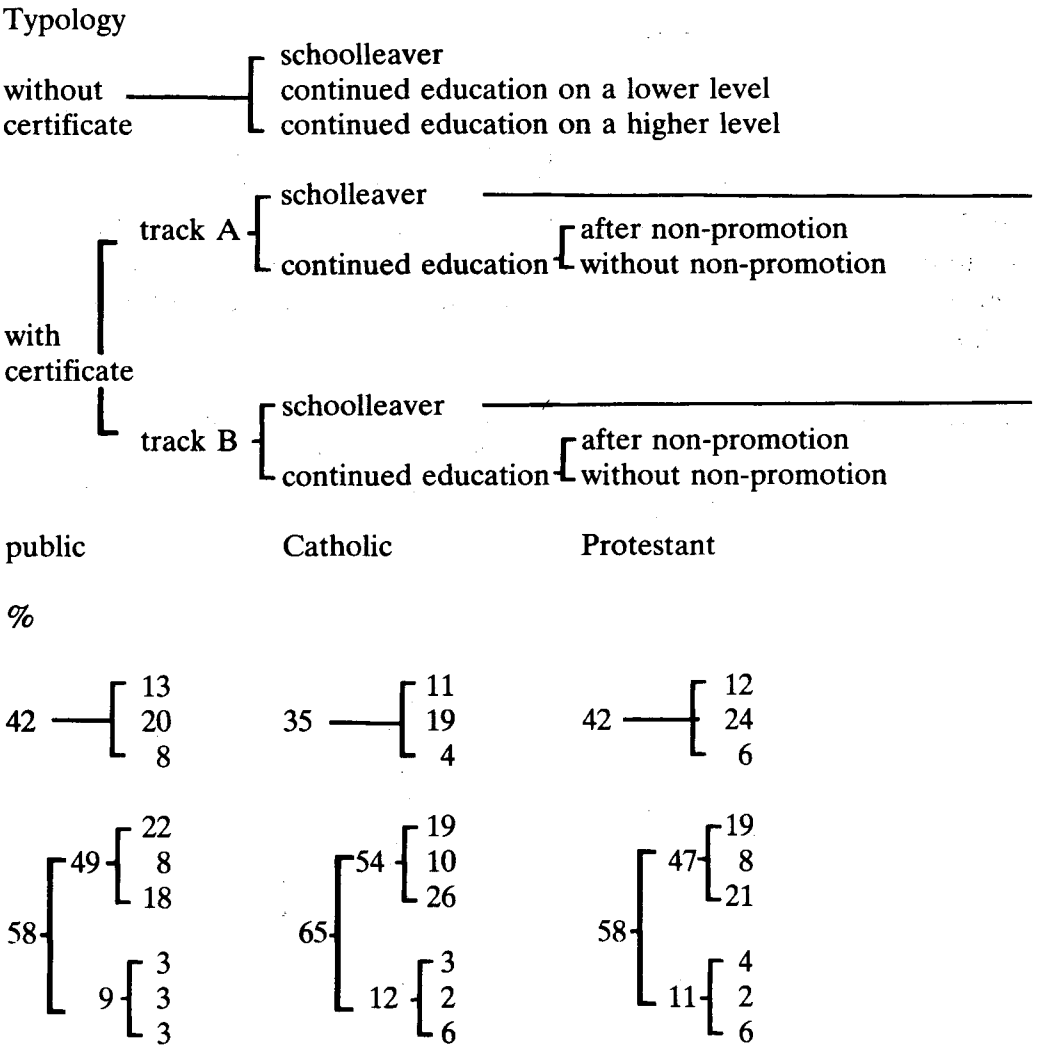
Eight interaction terms of school sector and a control factor are significant for one of the key aspects of junior general school careers. The size of the effects is relatively small compared to the main effects of the control factors involved, but at least of equal importance as the main effect of school sector. We will discuss the most interesting interactions, namely those concerning graduating, which are presented in table 10.

Table 10. Percentage of graduates of junior general schools by school sector and achievement score in sixth-grade, level of preceding education and non-promotion after controlling for variables mentioned in table 9

		public %	Catholic	Protestant	Total
PRIACH	low	50	64	47	54
	middle	56	65	61	61
	high	70	69	67	68
PRELEV	primary school	55	65	55	59
	lbo, vglo	79	70	81	75
	grammar	44	73	34	55
NONPRO	never	62	67	61	64
	once	50	63	53	56
	twice or more	56	68	52	59

This table indicates that the effects of achievement in sixth grade of primary school, preceding schooltype and record of non-promotion are generally lower in Catholic schools. The probability of obtaining a certificate in Catholic schools is less conditioned by the achievement score in grade six of primary school. Students with high achievement scores are more advantaged in Protestant and public junior general schools, but students with low achievement scores graduate more in Catholic schools than in both Protestant and public schools. The effect of non-promotion is also smaller in Catholic schools than in both Protestant and public schools. Catholic school students who repeat one or more classes do not have less chance of getting a certificate. On the other hand those who are recruited from grammar schools, and have in fact been downgraded, are more advantaged in Catholic than in public and Protestant schools.

Table 11. Typology of junior general school careers by school sector after controlling for variables mentioned in table 9



The junior general school careers are again summarized in a typology, which is presented in table 11. In Catholic schools the high percentage of graduates and their propensity to continue their study after junior general education combine to channel a relatively high number of students into follow-up education. Approximately 45% of Catholic school students continue their study as a graduate, whereas only 34% of public and Protestant school students achieve this. Protestant school students graduate nearly as often as Catholic school students in track "B" (11-12%), but the difference is mainly due to graduates in track "A" (54-47%). The Protestant and public junior general schools do not differ in overall effectiveness, although there are some differences in their school career patterns. In Protestant junior general schools there are more graduates in track "B", and graduates more often continue their study. Public junior general school students are more successful in enrolling in grammar schools without a certificate of junior general education.

Conclusions

In this article we presented the Dutch educational system as an example of a system in which private and public education are equally supported by the government. Therefore it offers a good opportunity to test whether school sector effects on scholastic achievement exist in a situation where selection effects due to a sector differences in funding are absent. A school sector effect could also explain the enduring quantitative importance of the demoninational private school sector in the Netherlands, and other West European countries, despite a growing secularization of society. If private schools produce better outcomes for nearly the same price and if parents perceive this quality of schools correctly, it is a rational decision for parents to send their children to private schools, despite their own religious preferences. This school sector effect was estimated allowing for initial differences in social background, achievement in primary school, preceding secondary school career and present school features. The estimates were presented for two educational levels separately: grammar and junior general schools.

The analyses carried out provide evidence that in an number of instances students in private schools achieve better, and in no instance worse, than students in public schools. The effectiveness of Protestant and Catholic schools relative to each other varies across educational levels.

In grammar schools, Protestant schools are the most and public schools the least effective. The variance in school success accumulates in a 10% difference in enrollment in college and university education between Protestant and public school students. Catholic grammar schools are slightly more effective than public grammar schools. Among junior general schools the Catholic schools are the most effective ones. As in grammar schools, the school sector effect accumulates in a 10% difference in follow-up education in favor of Catholic school students. Public and Protestant junior general schools do not vary in effectiveness.

An important issue is whether the effect of social background on educational success differs across school sector. Our analyses show that this is the case. In the Catholic school sector centripetal forces seem to be active. This is clearest in Catholic junior general schools, where students with an initial disadvantage achieve relatively well. That is to say, social background does not have an important effect in Catholic junior general schools. In Catholic junior general and grammar schools non-promotion has a minor effect on school careers in secondary education, while in the other sectors this effect is substantial. In Catholic schools non-promotion is probably not treated as a stigma, but rather as a mean of giving students a second chance to attain the highest level of education possible. In the Protestant school sector the social background effect is substantial. It is the most advantaged Protestant school student who is the most likely to profit from attending Protestant secondary schools, i.e. those from privileged backgrounds and high achievers.

Our results cannot be interpreted as evidence that in the USA private schools are more effective than public schools. The different historical settings in which the American and Dutch school systems have developed clearly forbid such a crude generalization. But our research suggests that sector effects remain when the effects of selection and self-selection due to an unequal government support of private and public schools are eliminated. As we stated above, one must conclude that in the Netherlands the denominational schools are more effective than public schools. That makes the statement of *Hoffer, Greeley and Coleman* (1985) that the positive effects of private school attendance are not purely a methodological artefact more convincing.

Our research still leaves many questions unanswered. So far we have identified school sector effects as differences in achievement which remain after controlling for initial differences between individual students. What is needed is an insight into the processes that produce these effects. To what extent, for example, can differences in

disciplinary standards and educational demands account for the school sector effect? And the next question is what it is that prevents the public schools from being similar to private schools in this respect. We need more information in the search for answers to these questions.

We demonstrated the presence of a school sector effect in the Netherlands. If parents are good judges of the quality of schools, or if they use school sector as a screening device for that quality, this would at least partly explain the persistence of a pillarized educational system in the Netherlands, as well as the importance of denominational education in other European nations.

Literature

Alexander, K.L. and A.M. Pallas: School sector and cognitive performance: when is a little a little? In: Sociology of Education, vol. 58 (1985), 115-128.

Bouhuys, S.J. and S. Boef-Van Der Meulen: Vrijheid van onderwijs en bevoegd gezag. In: L. Box et al.: Vrijheid van onderwijs. Nijmegen: Link 1978.

Coleman, J.S., Th. Hoffer and S. Kilgore: High school achievement. New York: Basic Books 1982.

Diederen, J.: From year to year: the passage of young people from different social background through Dutch primary and secondary education. In: Netherlands' Journal of Sociology, vol. 17 (1981), 1-22.

De Jonge, J.: De motivatie voor protestants-christelijk onderwijs. In: L. Box et al: Vrijheid van onderwijs. Nijmegen: Link 1978.

Hoffer, Th., A.M. Greeley, J.S. Coleman: Achievement growth in public and Catholic schools. In: Sociology of Education, vol. 58 (1985), 74-79.

James, E.: Benefits and costs of privatized public services: lessons from the Dutch educational system. In: Comparative Education Review, vol. 28 (1984), 605-624.

Jencks, C.: How much do high school students learn? In: Sociology of Education, vol. 58 (1985), 128-135.

Nie, N.H.: The statistical package for the social sciences. New York: McGraw Hill 1975.

Ransdorp, L. and J. Dronkers: Verzuiling in het onderwijs en het beleid van een bijzonder schoolbestuur. Amsterdam 1982.

Social and Cultural Planning Office: Social and cultural report 1980. The Hague 1980.

Thurlings, J.M.G.: De wankele zuil. Nederlandse katholieken tussen assimilatie en pluralisme. Deventer 1978.

Van Kemenade, J.A.: De katholieken en hun onderwijs. Meppel 1968.

Van Laarhoven, P., B. Bakker, J. Dronkers and H. Schijf: Some aspects of school careers in public and non-public primary schools. In: Tijdschrift voor Onderwijsresearch, vol. 11 (1986) 2, 83-97.

Willms, J.D.: Catholic school effects on academic achievement: new evidence from the High School and Beyond follow-up study. In: Sociology of Education, vol. 58 (1985), 98-114.

Zeitschrift für internationale erziehungs- und sozialwissenschaftliche Forschung

Im Auftrag des Forschungskollegiums des
Deutschen Instituts für Internationale
Pädagogische Forschung

herausgegeben
von

Hermann Avenarius, Hansgeorg Bartenwerfer,
Theodor Hanf, Bernhard Kraak, Wolfgang Mitter,
Hasso v. Recum, Rolf Vente

4. Jahrgang 1987 Heft 2

BÖHLAU VERLAG KÖLN WIEN